REMARKS

Applicants thank the Examiner for the thorough consideration given the present application. Claims 1-11 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Entry of Amendment

It is respectfully requested that the present Amendment should be entered into the official file in view of the fact that the amendments to the claims automatically place the application in condition for allowance. Alternatively, if the Examiner does not agree that the application is in condition for allowance, it is respectfully requested that the present amendments should be entered for the purpose of appeal. Applicants have amended the claims so as to improve the description of the invention. Accordingly, Applicants submit that the issues on appeal are simplified.

Allowable Subject Matter

It is gratefully acknowledged that the Examiner considers the subject matter of claims 7-9 as being allowable and the subject matter of claims 4-6 as being allowable if rewritten in independent form. Applicants have not yet rewritten these claims in independent form since it is believed that the claims from which they depend are also allowable.

Rejection Under 35 U.S.C. §102

Claims 1-3 and 10 stand rejected under 35 U.S.C. §102 as being anticipated by Golladay (U.S. Patent No. 4,634,949). This rejection is respectfully traversed.

The Examiner states that Golladay shows a control device for use with a two-phase stepping motor and discloses a control device generating two impressing voltages varying in accordance with a sinusoidal function signal which is representative of the number that is proportional to the square root of the sum of the squares of the two impressing voltages. Applicants submit that the claims as amended are not anticipated by this reference.

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Applicants wish to point out that the four embodiments of the present application are shown in the four figures. In the embodiments of FIGs. 1 and 3, the output of the current amplitude detector, is defined to be the square root of the sum of the squares of the exciting current amplitude values. This differs from the embodiments of FIGs. 2 and 4 where the output of the current amplitude detector is merely the sum of the squares, and therefore the square of the number in FIGs. 1 and 3. The claims have now been amended to only claim the embodiments of FIGs. 2 and 4. That is, claim 1 has been amended to only refer to the square of the exciting current amplitude value in the last paragraph. In the Golladay reference, the signal is representative of the number that is proportional to the square root of the sum of the squares, as indicated by the Examiner. Accordingly, Applicants submit that claim 1 as presently amended is no longer anticipated by this reference.

Claims 2-6 depend from claim 1 and as such are also considered to be allowable. In addition, each of these claims recite other features that make these claims additionally allowable. The Examiner has already indicated that claims 4-6 are allowable.

Claim 10 has likewise been amended in a similar fashion to only refer to the embodiments of FIGs. 2 and 4. Accordingly, Applicants submit that claim 10 is also allowable for the same reason stated above with regard to claim 1.

It should also be noted that claim 7 has been amended to also only refer to the embodiment of FIGs. 2 and 4. Previously, the paragraph describing the current amplitude deviation detection means only referred to the signals present in these two embodiments. However, to avoid any possible confusion, the language which could have referred to the embodiments of FIGs. 1 and 3 has been removed from the claim completely.

Claim 11 stands rejected under 35 U.S.C. §102 as being anticipated by Omori (JP 11164598). This rejection is respectfully traversed.

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The Examiner states that Omori shows similar limitations as described in regard to Golladay and in particular that the value is calculated from the square root of the sum of the square of the q-axis and d-axis current commands. Claim 11 has also been amended in the same manner as the other independent claims to only refer to the embodiments of FIGs. 2 and 4. Since the reference only teaches the value equal to the square root of the sum of the squares, Applicants submit that claim 11 is likewise allowable.

Double Patenting

The Examiner warned that if claim 4 was rewritten in independent form that there would be a double patenting rejection with regard to claim 7. Since claim 4 remains dependent from claims 1, 2 and 3, Applicants submit that such a rejection is not proper.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied upon by the Examiner. In view of this, reconsideration of the rejection and allowance of all the claims are respectfully requested.

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Respectfully submitted,

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